

REMARKS/ARGUMENTS

The Invention

The present invention is directed toward an integrated balloon catheter and self-expanding stent, and stent delivery system, for treating vascular disease such as a partially occluded blood vessel within the brain. The self-expanding stent is mounted on an elongated core member and is interlocked on the core member to prevent longitudinal movement of the stent along the core member. More particularly, the elongated core member includes a proximal cylindrical member disposed at the distal portion of the elongated core member and a distal cylindrical member disposed at the distal portion of the elongated core member but positioned distally of the proximal cylindrical member and spaced apart from the proximal cylindrical member to define a gap having a predetermined length. The self-expanding stent is comprised of a small diameter skeletal tubular member which includes a plurality of cells formed by a plurality of interconnected strut members and also including an anchor member placed on one of the strut members and having a length less than the length of the gap between the proximal cylindrical member and the distal cylindrical member. The self-expanding stent is mounted and compressed onto the elongated core member such that the anchor member is interlocked within the gap between the cylindrical members to thereby retain the stent on the elongated core member. Also, an actuatable retaining ring is disposed around the outer cylindrical surface of the self-expanding stent for retaining the stent onto the elongated core member in a compressed state, for upon actuation, releasing the self-expanding stent to permit the stent to expand against the wall of a vessel.

The actuatable retaining ring may take the form of a material, such as a polymeric material, which when heated yields to permit the compressed self-expanding stent to expand into contact with the wall of the vessel.

The Rejection

The Examiner has rejected Claims 1 through 5 and 9 "under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of U.S. Patent No. 5,919,225 to Lau et al. and in further view of U.S. Patent No. 6,165,213 to Goicoechea et al." Claims 6 through 8 have been rejected "under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Lau and Goicoechea, as applied to claim 5 above, and further in view of Barry." The rejections which apply to Claims 10 through 20 are not set forth since these claims are hereby cancelled without prejudice.

Remarks

As indicated, Claims 1 through 5 and 9 have been rejected as being unpatentable over Hayashi, et al. in view of Lau, et al. and further in view of Goicoechea, et al. The Examiner has stated that "Hayashi includes many features of the claimed invention, except for some of the limitations in claim 1." The Examiner has also indicated that "Hayashi lacks proximal and distal cylindrical members disposed on the core member . . ." and "also lacks an anchor member on one of the struts." The Examiner goes on to state that Lau, et al. discloses both proximal and

distal cylindrical members attached to a core member, and that Goicoechea, et al. "shows that a radiopaque marker, or 'anchor' can be in the form of a wire. . ." There is no suggestion in these references as to how one would construct a proximal cylindrical member and a distal member to define a gap for retaining the stent. There is no suggestion in any of these references as to how one would take the "radiopaque marker, or 'anchor'" from Goicoechea, et al. and use that to interlock with proximal and distal cylindrical members. In fact, the radiopaque marker wrapped around the strut 17 of Goicoechea, et al. merely serves as a conventional radiopaque marker used with stents and does not in any way serve as an anchor to be interlocked in a gap which exists between cylindrical members on an elongated core member.

It appears that the Examiner has simply taken Applicants' claimed invention and has found elements in three references, Hayashi, et al., Lau, et al. and Goicoechea, et al., which it is contended correspond to the claimed elements and has attempted to reconstruct Applicants' invention from components shown in these references. In the case of Claims 6 through 8, the Examiner has found elements in four references and has attempted to combine these to reconstruct Claims 6 through 8. There is no teaching of such reconstruction, or combination of elements, in these references.

Even assuming that these various components in these references could be combined to create Applicants' invention, it would be improper to combine the radiopaque marker (shown at 17) in Goicoechea, et al. and treat that as an "anchor" to interlock within a gap since the purpose of this radiopaque marker is to serve as a radiopaque marker and not as an anchor to be interlocked between cylindrical members mounted on an elongated core member.

There is clearly no language in any of the references of "an anchor member placed on one of said plurality of strut members and having a length less than the length of the gap between the proximal cylindrical member and the distal cylindrical member . . . such that said anchor member is interlocked within said gap between the proximal cylindrical member and the distal cylindrical member." There is no teaching in these references of taking the radiopaque marker wrapped on the wire 17 of Goicoechea, et al. and using this marker as an anchor for interlocking between cylindrical members. The quoted language in Claim 1, and in its dependent Claims 2 through 9, is neither shown nor suggested by any of the references taken in any combination thereof. This structural language cannot be ignored.

In order to combine references under 35 U.S.C. 103, it is necessary to establish that there is some teaching, or obvious reason, for combining references. In this case there is no such teaching to so combine the references. Even if one attempted to combine the references it would not be logical to take the simple radiopaque marker of Goicoechea, et al. and use that as an anchor to interlock in a gap between cylindrical members.

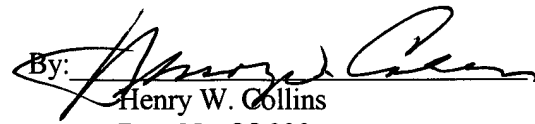
Accordingly, Claims 1 through 9 clearly define patentable invention over Hayashi, et al., Lau, et al., Goicoechea, et al. and Barry taken separately or in any combination thereof.

In order to expedite the prosecution of this patent application, Applicants have elected to cancel Claims 10 through 20, without prejudice.

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Accordingly, Notice of Allowance is respectfully requested for these claims.

Respectfully submitted,

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